

# EXHIBIT A

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

SALVATORE GITTO	)	
AND PHYLLIS GITTO,	)	
	)	
Plaintiffs,	)	Civil Action No. 07 CV 4771 (DC)
vs.	)	
	)	
A.W. CHESTERTON CO., INC.,	)	
<i>et al.</i> ,	)	
	)	
Defendants.	)	
	)	

**DECLARATION OF BEN J. LEHMAN**

I, Ben J. Lehman, declare the following:

1. I am a retired Rear Admiral of the United States Navy. Before joining the Navy in 1942, I received a Bachelor of Science in Mechanical Engineering from the College of the City of New York. After joining the Navy, I was ordered to study naval architecture and marine engineering at Massachusetts Institute of Technology ("MIT"). Later, I completed the United States Navy's Post-Graduate School program in Naval Engineering Design at the Naval Academy in Annapolis studying electrical and mechanical engineering. I received a Master of Science in Mechanical Engineering from Harvard University in 1949. I have also studied Design Philosophy and Advanced Stress Analysis at Stanford University.

2. I joined the United States Navy in 1942 and remained on active duty until 1946. While on active duty in the United States Navy, I served as Ship Superintendent and Dry Docking Officer at the Brooklyn Navy Yard between 1942 and 1944. As a Ship Superintendent I was involved almost every day with the installation and repair of ship's machinery and equipments.

3. In 1946, I left active duty and joined the Naval Reserve. In 1950, I returned to active duty and was assigned as a Ship Superintendent at the San Francisco Naval Shipyard from

1950 to 1952. I was then transferred to the Assistant Industrial Manager Office in San Francisco from 1952 to 1954 as a Planning Officer. In 1954, I returned to the Naval Reserve where I was a member and then Commanding Officer of Naval Reserve Engineering Companies. I was promoted to Rear Admiral in 1977 in the Naval Reserve.

4. I worked as an engineer at General Electric Company between 1946 and 1948. I held the positions of Director of Engineering and Vice-President of Engineering at two major ship building companies between 1969 and 1975. During all these periods, I have maintained close contact with the U.S. Navy, including periods of active duty in the Department of Defense and the Naval Sea Systems Command in Washington, D.C. I have been an independent consultant since 1975 providing engineering consultation services to various industries including the shipbuilding industry.

5. During my Naval service, I have personally been responsible for the creation of Navy specifications for the procurement of materials and machinery for use on Navy ships. A true, complete, and accurate copy of my Curriculum Vitae is attached as Exhibit 1. I am an adult and have personal knowledge of the facts contained herein.

6. I am aware that a lawsuit has been filed against several Defendant corporations, including Eaton Hydraulics Inc., formerly known as Vickers, Incorporated (“EHI”), by Plaintiffs who allegedly were injured by Plaintiff Salvatore Gitto’s exposure to asbestos and asbestos-containing products aboard certain Navy vessels at the Brooklyn Navy Yard from 1951 to 1952 and from 1954 to 1966. I understand that Plaintiff alleges exposure to and subsequent injuries from certain EHI pumps and valves aboard these Navy vessels. It is my understanding that Plaintiff also alleges that Defendant corporations, including EHI, failed to warn Plaintiff of the alleged hazards related to asbestos in such products.

7. I submit this Declaration to attest to the level of supervision and control by the United States Navy and its officers over every aspect of the equipment installed on Navy vessels, particularly all warnings, labels, and other caution statements affixed to or accompanying equipment on such vessels.

8. During my tenure in the Navy and as Ship Superintendent, I was personally involved with the supervision or oversight of ship alterations and machinery and equipment overhauls at the New York Naval Shipyard (formerly the Brooklyn Navy Yard) and at the San Francisco Naval Shipyard (formerly Hunter's Point). This included liaison with the ship's officers to assure them that every aspect of the shipyard's work and of the machinery, equipments, and materials used was in complete accordance with the U.S. Navy's standards, specifications, and approved work practices.

9. The Navy has had complete control over every aspect of each piece of equipment since the 1930s or before. Military specifications governed every characteristic of the equipment used on Navy Ships, including the instructions and warnings. Drawings for nameplates, texts of instruction manuals, and every other document relating to construction, maintenance, and operation of the vessel were approved by the Navy. The Navy controlled the decision making with respect to instructions and warnings affixed to and accompanying every piece of equipment, including any warnings regarding asbestos hazards.

10. The Navy had specifications as to the nature and content of all written material that was delivered with each piece of equipment. The Navy was intimately involved with and had final approval of all technical and engineering drawings, operating manuals, safety or hazard information and any other written information that accompanied a piece of equipment. The Navy determined the nature of hazards to be subject to any precautionary labeling and the content of any such labeling, including any asbestos hazards. In the 1950s and 1960s, the Navy dictated every aspect of the design, manufacture, installation, overhaul, written documentation and warnings associated with its ships and did not permit deviation by any of its contractors. Indeed, any warnings such as asbestos hazards were prescribed and proscribed by the U.S. Navy, and contractors such as EHI could not deviate from such warnings to comply with any state-law imposed warnings. Any EHI pumps or valves had to conform with military specifications or the U.S. Navy would not have permitted their installation on any Navy ships. The Navy knew in the 1950s and 1960s that there were no warnings regarding asbestos hazards accompanying products

installed on Navy vessels. If a contractor such as EHI had unilaterally attempted to add such warnings, it would have been prohibited and proscribed from doing so.

11. Attached as Exhibit 2 is a military standard, MIL-M-15071D (SHIPS), dated 6 June 1961, governing the Navy's requirements for all technical manuals for shipboard electrical and mechanical equipment, including any pumps or valves installed on Navy vessels. This specification shows that the Navy had final approval over all such technical manuals and that any warnings, labels, or any other written information that accompanied a piece of equipment installed on Navy vessels, including any warnings such as asbestos hazards, were explicitly prescribed or proscribed by the Navy through, among other things, its review and approval of these technical manuals.

12. All Navy equipment installed on Navy vessels in the 1950s and 1960s, including pumps and valves supplied by EHI to the Navy, were supplied in accordance with specific rated order contracts between the Navy and contractors such as EHI. No equipment could have been supplied without such a contract. Pursuant to these contracts, EHI was required to comply with detailed specifications and directives prescribing and proscribing all aspects of products installed on Navy vessels.

I declare under penalty of perjury that the foregoing is true and correct.



Ben J. Lehman  
RAdm USN Ret.

# EXHIBIT 1

**Ben J. Lehman**  
**Rear Admiral U.S. Navy (Engineering) Retired**  
**Professional Engineer, Safety Professional President - Mech Elex Tex, Inc.**

**Education:**

College of the City of New York [CCNY], Bach. of Mechanical Engineering	(1942)
Massachusetts Institute of Tech. [M.I.T.], Naval Architecture {4 months}	(1942)
U.S. Navy Post-Graduate School, Electrical and Mechanical Engineering	(1945)
Harvard University, M.S. in Mechanical Engineering	(1949)
Stanford University, Design Philosophy and Advanced Stress Analysis	(1957-59)

**Forensic Experience:**

Testified in court over 50 times regarding ;

**Ship Design, Construction and Repair,**

**Safety Engineering including Warnings and Training;**

**including those relating to asbestos exposure**

Product Defects

Construction Practices and Equipment; Electrical Equipment;

**Professional Recognition:**

**Registered Professional Engineer:** New York (1949), California (1953), [Emeritus:Alabama (1976), Louisiana (1976)] Florida (1976:lapsed)

**Certified Safety Professional** (1979-2004:discontinued in 2004)

**Career Experience:**

Ship superintendent and planning officer, [U.S. Navy- Ensign to LCdr] (1942-46 + 1950-54) (Promotions in the Naval Reserve: Cdr-1957, Captain-1962, Rear Admiral-1977; retired 1982)	
Engineer, General Electric Co. (1946-48) & Bethlehem Steel Shipbuilding Div.	(1949-50)
Engineer, Bechtel Corp. (1954-55) & Sylvania Electric Microwave Laboratory	(1955)
Project Engineer, Kaiser Aircraft and Electronics (1956-57) & Beckman Instruments	(1957-59)
Engineering Manager, Lockheed Missiles and Space Co.	(1959-69)
Director of Engineering, Lockheed Shipbuilding and Construction Co.	(1969-72)
Vice-President Engineering, Litton Industries & Ingalls Shipbuilding	(1972-75)
Independent Consultant	(1975 -present)

**Affiliations:**

Systems Safety Society

American Society of Naval Engineers

American Society of Safety Engineers

Society of Naval Architects & Marine Engineers

Institute of Electrical & Electronic Engineers (IEEE)

Risk Analysis Society

Society of Automotive Engineers

# EXHIBIT 2

ADVANCE COPY

MIL-M-15071D(SHIPS)

01 SEP 1967

SUPERSEDING

MIL-M-15071C(SHIPS)

10 September 1957

MILITARY SPECIFICATION

MANUAL, SERVICE (INSTRUCTION BOOKS) FOR SHIPBOARD

ELECTRICAL AND MECHANICAL EQUIPMENT

1. SCOPE

1.1 Scope. - This specification sets forth Bureau of Ships requirements for classes and general contents of manuals necessary for the satisfactory operation, maintenance, installation, overhaul and repair, without the services of manufacturer's representative, of electrical, mechanical, hull, interior communication and fire control shipboard equipment. This specification also includes procedures for submission, review, approval and revision of the service manual. The intent is to accept the manufacturer's commercial type of manual or one prepared in accordance with his commercial practice whenever it is roughly equivalent to the detail requirements included herein.

1.2 Classification. - Service manuals shall be of the following classes:

Class A manual - A basic manual covering a family of equipment of the same basic design and one which can be made applicable to a specific equipment manufactured to that basic design by completing sheets and blanks.

Class B manual - A manual covering a specific equipment for which a class A approval has not been obtained.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids, form a part of this specification to the extent specified herein.

SPECIFICATIONS

MILITARY

MIL-D-963 - Drawing, Electrical, Hull and Mechanical Equipment for Naval Shipboard Use.

FSC 7610

MIL-M-15071D (NAVSIPS)

PUBLICATIONS

DEPARTMENT OF DEFENSE

DD Form 441 (Attachment) - Industrial Security Manual for  
Safe-guarding Classified Information.

(Copies of specifications and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2. 2 The following document forms a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids shall apply.

OFFICIAL CLASSIFICATION COMMITTEE

Uniform Freight Classification Rules

(Application for copies should be addressed to the Official Classification Committee, 1 Park Avenue at 33rd Street, New York 16, N. Y.).

3. REQUIREMENTS

3. 1 Media for final manuals and approval.

3. 1.1 Class A manuals: - Whenever a manufacturer's equipment lends itself to the preparation of a manual covering a family of equipments of the same basic design and one which can be made applicable to specific equipments of that design by completing sheets and blanks, the manufacturer may submit to the Bureau of Ships four copies of the basic manual together with examples of the sheets and blanks which will represent the detailed information to be provided for a specific equipment. Approval of a class A manual will be by the Bureau of Ships only and, once approved, the basic manual shall not be modified without the approval of the Bureau of Ships. At the time of class A manual approval, the Bureau will assign a NAVSHIPS number to the basic manual and forward one copy to the cognizant inspection for future comparison inspection with manuals furnished for specific equipments.

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3.1.1.1 Once approval of a class A manual is granted for a particular basic design of equipment (and size-range, if appropriate), the basic manual with the specific detailed information required for the unit of the family being furnished on a contract or order maybe supplied by the manufacturer, in the quantities required by that order, without further approval. Copies of the manual prepared for the specific equipments shall be marked by the manufacturer with the NAVSHIPS number of the basic manual followed by "-1", "-2" or higher. Each dash number shall be assigned numerically by the manufacturer for each specific equipment of that family.

3.1.2 Class B manuals. - Class B manuals cover a specific equipment for which class A approval has not been obtained. Once a class B manual has been approved by the Bureau or its field representative, the manual shall not be modified without approval of the Bureau of Ships. (NOTE: Bureau of Ships field representative - Where the term "field representative" is used in this specification, it is limited to field representative of the Bureau of Ships, i.e. Supervisors of Shipbuilding, USN, U.S. Naval Shipyards and Industrial Manager, USN.) Whenever a manual for a specific equipment has not been approved previously, for this or a previous issue of this specification, prior to preparing final manuals, the manufacturer shall prepare and submit a sample manual for approval to one of the following activities, as appropriate:

- (a) Manuals procured on Bureau of Ships contracts - Contractor shall forward four sample copies to the Bureau of Ships for approval and assignment of a NAVSHIPS number with a copy of the forwarding document to the cognizant Government inspector.
- (b) Manuals procured on contracts issued by Naval activities other than Bureau of Ships - Contractor shall forward four sample copies to the Naval activity for approval.
- (c) Manuals procured for the Navy by a commercial activity (such as a private shipbuilder) - Contractor shall forward five sample copies to the commercial activity for approval of both the commercial activity and the cognizant Bureau representative.

3.1.2.1 The Bureau will assign a NAVSHIPS number to each different class B manual as follows:

- (a) Manuals procured on contracts issued by the Bureau of Ships - The NAVSHIPS number will be included in the approval letter.
- (b) Manuals procured on contracts issued by other activities.

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The field approving activities may obtain NAVSHIPS numbers from the Bureau of Ships by one of the following methods:

- (a) Submit two copies of the manual prior or subsequent [REDACTED] to the review and approval.
- (b) Permit the manufacturer to forward two copies of the manual to the Bureau simultaneously with the copies for approval.
- (c) In urgent cases, submit a letter containing the nameplate data of the equipment, the ship applicability and contract or order number.

3.1.2.2 Regardless of the method used for obtaining NAVSHIPS numbers, the letter request shall state the expected delivery date of the manuals and the quantity of manuals being furnished for stock.

3.1.3 Emphasis. - The Bureau of Ships is mainly interested in the adequacy and completeness of contents and the clarity and readability of the information rather than the format. The manual shall be oriented toward operation, maintenance and repair of the equipment by the forces afloat, without the services of a manufacturer's representative. The portions devoted to descriptive matter and theory shall be limited to those which are essential to a proper understanding of the equipment for satisfactory operation, maintenance and repair. The text need not duplicate information which is adequately shown on the photographs, drawings and illustrations incorporated in the manual. (A class A or B manual may be the manufacturer's commercial manual, or one prepared in accordance with his commercial practice whenever it will be suitable for the service intended as determined by the approving activity.)

3.1.4 Security classification. - The security classification of manuals shall be as designated by the bureau or agency concerned. If classified, the security guide issued by DD form 254, forming a part of the contract shall be followed. All pages shall be marked in accordance with the requirements of the Industrial Security Manual for Safeguarding Classified Information (DD 441 (Attachment)). Where a minor amount of classified information is involved, two volumes - one unclassified and one classified shall be provided. The word "UNCLASSIFIED" need not appear on each page of unclassified portions of classified manuals. Revisions shall be classified as required by their subject matter. Regardless of the overall classification of a classified publication, an unclassified title shall be assigned whenever possible and consistent with security and clarity. In all cases, however, if a classified manual is involved, the initials of the classification assigned to the title, standing alone, shall be indicated in parentheses immediately following the title, using one of the following notation (U), (C), (S), (TS). In addition, the covers of classified manuals shall include the markings as indicated on figure 1.

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3.1.5 Detail requirements.

3.1.5.1 Contents. - Manuals shall contain the following information, arranged in an order appropriate to provide adequate instruction for operation and maintenance of each unit in the equipment and the complete assembly: No particular arrangement, format or chapter titles are required as long as the information is suitably presented.

- Front Matter
- General Information
- Installation
- Principles of Operation
- Operating Instructions
- Maintenance and Repair
- Parts Lists

3.1.5.2 Front matter. - The front matter shall consist of the following:

- (a) Cover
- (b) Title page (for classified manuals only)
- (c) Approval and procurement record page
- (d) List of effective pages
- (e) Table of contents
- (f) List of figures
- (g) List of tables

3.1.5.2.1 Cover and title page. - The cover shall contain the information on figure 1. The title page for classified manuals shall conform to figure 2.

3.1.5.2.2 Approval and procurement record page. - The approval and procurement record (APR) page shall be the first page of unclassified manuals and shall follow the title page of classified manuals and shall conform to figure 3.

3.1.5.2.3 List of effective pages. - A list of effective pages shall be included. In multiple volume manuals, the list of effective pages shall be included in volume 1 only. The list of effective pages shall be modified whenever revisions are incorporated in copies of the manual.

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F

d:

SHIPS).

3.1.5.2.4 Table of contents. - The table of contents shall list all primary divisions and secondary subdivisions such as chapters, sections and pages with their corresponding numbers. Where sub-manufacturers are furnishing associated equipment and a separate manual is not provided, it shall be the responsibility of the prime contractor to integrate and reflect the information provided by the sub-manufacturers within the table of contents. In multiple volume publications, a table of contents shall be prepared for each volume.

3.1.5.2.5 List of figures. - A list of figures shall be prepared listing all figures, their titles and numbers. In multi-volume publications, a list of figures shall be prepared for each volume.

3.1.5.2.6 List of tables. - A list of tables shall be prepared listing all tables, their titles and numbers. In multi-volume publications, a list of tables shall be prepared for each volume.

3.1.6 General information. - General information shall consist of general data, a general description and detailed descriptions, as necessary to supplement data included in drawings and photographs.

3.1.6.1 General data. - General data shall consist of the following data for each component or unit:

- (a) Descriptive (name plate) data necessary to identify manufacturer, type, model and performance or design characteristics.
- (b) Principal overall dimensions.
- (c) Weight.
- (d) Allowable capacities, temperatures, pressures, settings, tolerances or other salient features as appropriate to the item shall be shown.

3.1.6.2 General description. - General description shall consist of a short general description of the equipment; explain briefly what it is, what it will do, and the general overall and interrelated operation of the various units. All information of a general character applicable to the complete equipment shall also be given. Where the text contains terms or symbols not commonly used, definitions or explanatory notes shall be included.

3.1.6.3 Detailed description. - Detailed description shall contain a complete detailed description of units and assemblies which comprise the complete equipment; for example: ship service turbo generator; the turbine, reduction gear, generator and exciter.

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3.1.7 Installation. - Instructions, if necessary to supplement the installation drawings supplied (in accordance with Specification MIL-D-963), shall consist of methods of installation; including packing or unpacking, handling, preparation of foundation, alignment, precautions, mounting instructions, bolting diagrams, safety guards, grounding or bonding, clearances for access, ventilation, motion under shock, and methods of testing to assure satisfactory installation.

3.1.8 Principles of operation. - Figures, sketches, performance curves, and schematic wiring diagrams shall be included to the extent necessary to provide satisfactory operation, maintenance and repair. Operating sequences of automatic and semi-automatic equipment shall be indicated.

3.1.9 Operating instructions. - Information shall include routine and emergency procedures; and safety precautions; maximum and minimum loads; normal temperatures or pressure limits or both; transfer from manual to automatic operation (or the reverse), to be observed in the starting, operating, stopping, and shutting down of the equipment. In addition, action(s) which should be taken in the event of power failure; control air failure; lube-oil failure; partial failure of equipment; and similar conditions shall be described. Action(s) described in the event of partial failure shall include, where practicable, those procedures necessary to provide continued service of the equipment until time is available to repair the equipment. Where operating procedures are to be performed in specific sequence, step-by-step procedures shall be given. Operations shall be numbered in the order in which they are performed. Tables and charts shall be used for the presentation of these instructions where varying operating conditions are encountered.

3.1.10 Maintenance and repair. -

3.1.10.1 Preventive maintenance. - Instructions shall include all maintenance procedures, inspections, tests, and adjustments which should be performed periodically under shipboard conditions for the purpose of preventing failure or impairment of the equipment. A one page summary and time schedule for maintenance procedures, including a check-off table where appropriate, shall be provided. The summary sheet shall identify any items required by the Navy, as indicated at time of approval action, to be included in the ship's permanent history cards. Where necessary instructions shall include procedures for obtaining access to the sub-components for maintenance. Maintenance instructions shall include, where appropriate, but shall not be limited to the following:

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- (a) A tabulation of periodic, routine, mechanical, and electrical tests and checks which should be accomplished regularly to show that sub-components are operating properly and to insure continuity of service at optimum performance.
- (b) Table or charts, including "wear-limit" charts when appropriate, to indicate what is to be done, when it is to be done based on inspection, and how to do it.
- (c) Utilization of the test facilities which may be incorporated in the various components.
- (d) Instructions for the care, inspection, and cleaning of all pertinent parts.
- (e) Instructions stressing the importance of properly maintaining all safety devices and interlocks provided to prevent damage to equipment or injury to personnel.
- (f) Instructions on lubrication at shipboard operating temperatures shall be provided as applicable, preferably in chart form. They shall include information regarding lubrication recommended by the manufacturer and the type of lubricant to be used. Lubricants shall be described by symbol number, Federal stock number, Military specification, and industry standard numbers where applicable and known.
- (g) Instructions on in-place-balancing or other means of reducing noise level if equipment specifications and shipboard application require quiet operation.

3.1.10.2 Trouble shooting, overhaul and repair. - Instructions shall include all information necessary to permit a technician to locate trouble, and to make repairs, adjustments and conduct tests of each component, assembly or sub-assembly of the equipment. The following shall be included:

- (a) Trouble shooting guides for the localization of faults giving possible sources of trouble, the symptoms, probable cause, and instructions for remedying the faults.
- (b) Complete instructions on signal tracing for electric circuits, use of special test instruments and unusual servicing techniques;
- (c) Ample figures and sectional views giving details of mechanical assemblies, and simplified schematic diagrams of electrical, mechanical, hydraulic and pneumatic circuits. Figures contained elsewhere in the manual may be used and referred to under this heading without duplicating them.

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3.1.11 Parts list. - The parts list shall include identification data covering all repair parts to facilitate ready identification of parts for replacement and ordering purposes. Standard hardware, structural parts, or other parts which have no maintenance significance shall not be listed.

3.1.12 Special tools. - A separate list of "special tools" which are supplied with the equipment shall immediately follow the parts table; this list shall contain only tools that are peculiar to the equipment showing the quantity, unit of issue (each, pair, set), description, and manufacturer's identification number. A photograph or sketch showing each special tool as it is being used, shall be included in the manual.

3.1.13 Photographs and drawings. - As the preferred alternate to lengthy, detailed discussions, the manual shall make maximum use of shop photographs, with parts annotated for identification. Photographs may be half-tones or glossy prints. Manuals shall contain reproductions of drawings, additional block diagrams and schematic drawings as necessary to supplement the descriptive matter contained in the text. In every case, a drawing or photograph of the assembly shall be included. Diagrams of switches and relays used in the system showing the terminal numbering shall be inserted as additional drawings. Photographs and sketches shall be included wherever necessary for identification of the parts in the "parts list". Other figures shall be included to supplement or extend the information contained in the photographs and drawings as required for further identification of parts and explanation of the descriptive information contained in the text.

3.2 Format. -

3.2.1 Volumes. - Manuals shall be divided into volumes and by chapters or sections as necessary to provide ready handling and to present orderly instructions for operation and maintenance of the equipment, depending on the size and complexity of the manual.

3.2.2 Numbering. - Any section, chapter, page and paragraph numbering system which facilitates adequate indexing and rapid location of pertinent information is acceptable.

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### 3.3 Test

**8.3.1 Wording.** - The text shall be factual, specific, concise, and clearly worded to be readily understandable by personnel involved in the operation, repair, overhaul and maintenance of the equipment, and to provide sufficient information for technicians to install, operate, service, and maintain the equipment at peak performance without the services of a manufacturer's representative. Technical phraseology requiring a specialized knowledge shall be avoided except where no other wording will convey the intended meaning, in which case the technical term shall be defined.

3.3.4. Level of writing. - As a general guide, the level of writing should be that for a high school graduate having specialized training as a technician through Navy training courses.

**3.3.3. Figures.** - Sectional views of assemblies, sub-assemblies and the component parts thereof shall be shown as necessary to supplement the text, photographs, and drawings and aid in the identification of parts. Identification of illustrated parts with listed parts shall be facilitated by the use of index (or piece) numbers and arrows which will identify assemblies, sub-assemblies and component parts thereof.

**3.3.4. Indexing and referencing of figures.** - Significant features or components of figures shall be identified by brief applicable nomenclature with arrows. Index (or piece) numbers may be used on figures when an extremely large amount of nomenclature is required.

S. 3.5. Deleted figures. - When a change requires deletion of a figure without substitution of another, the following sentence shall be inserted: "Figure \_\_\_\_\_ deleted" in or near the place of deletion.

**3.8.6 Notes, cautions and warnings:** Notes, cautions and warnings should be used to supplement the general and specific instructions. The use of notes, cautions and warnings is consistent with real need. When used, notes, cautions and warnings should immediately precede the specific instructions and either be selected in accordance with the following definitions:

- (a) "INCIDENT" - An operating procedure, condition, etc., which it is essential to highlight.
  - (b) "VIOLATION" - Operating procedures, practices, etc., when not strictly observed, will result in damage or destruction of equipment.
  - (c) "WARNING" - Operating procedures, practices, etc., which will result in personal injury or loss of life if not correctly followed.

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3.4 Applicability of manuals:

3.4.1 Identical. - When a class A manual covering a specific equipment or a class B manual which is already available, is applicable in its entirety to the equipment being procured, the applicability is to be extended to include the additional ships by the manufacturer issuing an approval and procurement record page. Copies of the manual required for the ship(s) and local use may be requisitioned from stock by the cognizant Naval supervising activity.

3.4.2 Identical except for minor modifications. - When a class A manual covering a specific equipment or a class B manual is applicable to the equipment being procured except for minor differences, the manufacturer shall modify the manual to cover the differences by the issue of revised or supplementary pages. All revisions to an existing manual shall be approved by the Bureau of Ships, shall require the assignment of a change number, assigned by the Bureau of Ships, and shall be issued by the manufacturer with an approval and procurement record page.

3.5 Revisions. - Revisions to manuals which have been previously distributed shall be prepared as follows:

- (a) New pages - New pages shall be issued when it is found necessary to include new information to augment the content of the original manual.
- (b) Revised pages - Revised pages shall be issued to make changes which apply uniformly to all equipments covered by the manual.
- (c) Supplementary pages - Supplementary pages shall be issued when necessary to provide alternate instructions applicable only to a portion of the total equipments covered by the manual because of minor modifications or minor differences in related components.

3.5.1 Legend for revisions. - All new, revised or supplementary pages shall include the words "new", "revised" or "supplementary", the date and a change number.

3.5.2 Submission for approval. - Four copies of each revision shall be submitted to the Bureau for approval and assignment of a change number. The forwarding letter shall include the number of stock copies and the estimated delivery date of the final copies.

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3.6 Production requirements. - Detail materials, printing procedures and assembly for each manual shall be as approved at time of class A or B manual approval. An acceptable arrangement is set forth in the appendix of this specification. Alternate arrangements will be approved if equivalent performance is provided.

3.7 Distribution requirements. - Unless otherwise specified in the contract or order, distribution of all manuals not exactly identical to one previously procured and assigned a NAVSEIPS number shall be as follows:

- (a) Two copies for each equipment shall be packed with the equipment when the equipment is shipped to stock.
- (b) Two copies for each equipment shall be shipped separately to the cognizant Naval supervising activity marked for each ship on which the equipment is to be installed.
- (c) Two copies to the Bureau of Ships.
- (d) Three copies to the cognizant Supervisor of Shipbuilding when the equipment is to be installed by a private shipyard. (These copies are in addition to the copies for placement on board the ship.)
- (e) Two copies to the Naval shipyard when the equipment is to be installed by that activity. (These copies are in addition to the copies for placement on board the ship.)
- (f) One copy to each U. S. Naval Shipyard except Pearl Harbor and Portsmouth Naval Shipyard (total of nine).
- (g) Two copies to Pearl Harbor Naval Shipyard (for submarine and surface ship equipment).
- (h) Two copies to Portsmouth Naval Shipyard (for submarine equipment only).
- (i) One copy to all active submarine tenders (submarine equipment only).
- (j) One copy to Submarine Bases, New London, and Pearl Harbor (submarine equipment only).
- (k) Two copies to Commanding Officer, Ships Parts Control Center, Mechanicsburg, Penn.
- (l) One copy to Naval Supply Centers, Norfolk and Oakland.
- (m) One copy to Naval Supply Depot, Clearfield, Odgen, Utah.
- (n) One copy to Forms and Publications Supply Office, Byron, Georgia.

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- (o) Manuals for stock shall be in the following quantities:

<u>Number of equipments</u>	<u>Number of copies</u>
1 to 25	25
26 to 99	50
100 and over	100

These manuals shall be shipped to:

Receiving Officer, Naval Supply Depot, Mechanicsburg, Penn.  
Marked for COG if stock.

- (p) Copies of approval and procurement record pages in accordance with paragraph 3. 10.

3. 8 Unless otherwise specified in the contract or order, (where manuals are not to be drawn from stock, see 3. 4. 1) distribution of all manuals exactly identical to ones previously approved shall be as follows:

- (a) Two copies for each equipment shall be packed with the equipment when the equipment is shipped to stock.
- (b) Two copies for each equipment shall be shipped separately to the cognizant Naval supervising activity marked for each ship on which the equipment is to be installed.
- (c) Copies of approval and procurement record pages in accordance with 3. 10.

3. 9 Revisions. - Revision pages shall be distributed to all activities receiving the original manual, and in the same quantity.

3. 10 Approval and procurement record page. - This page shall be included in all copies of the manuals and additional copies distributed as follows:

- (a) Two copies to Bureau of Ships.
- (b) One copy to Forces and Publications Supply Office, Byron, Georgia.
- (c) One copy to Ships Parts Control Center, Mechanicsburg, Penn.

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3.11 Military Assistance Program Ships. - Unless otherwise specified in the contract or order, distribution of all final manuals for ships being constructed, reactivated, converted or otherwise readied for transfer under the Military Assistance Program (MAP) shall be as follows:

- (a) Two copies for each equipment shall be shipped separately to:  
the cognizant Naval supervising activity marked for each ship  
on which the equipment is to be installed;
- (b) Six copies per equipment for each ship to be transferred under  
MAP to a foreign government. These copies shall be sent  
to the Military Assistance Advisory Group (MAAG) of the  
recipient country for delivery to the foreign government  
which is to receive the ships;
- (c) One copy to the Washington, D. C., Naval Attaché of the foreign  
government to receive the ships;
- (d) Two copies to the Bureau of Ships;
- (e) One copy to the cognizant Supervisor of Shipbuilding when the  
equipment is to be installed at a private yard;
- (f) One copy to the Commanding Officer, U. S. Navy Forms and  
Publications Supply Office, Byron, Georgia;
- (g) Twelve copies to Receiving Officer, U. S. Naval Supply Depot,  
Mechanicsburg, Penn., marked for COG-I stock.

4. QUALITY ASSURANCE PROVISIONS

4.1 Contractor responsibility. - The supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of the examinations shall be kept complete and available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Inspection. - Sample copies shall be inspected to determine compliance with the requirements of this specification and for equivalence with the approved (when applicable) sample or basic manual. (If any subsequent issue of a manual is not equivalent to or better than an approved class A manual, class A approval may be withdrawn.)

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4.3 Content. - The content of the manual shall be checked against the equipment being furnished to assure that it depicts accurately and adequately the equipment and the operating and maintenance procedures required. The NAVSHIPS number on the manual shall be checked for agreement with the NAVSHIPS number on the equipment identification plate where specified.

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing.

5.1.1 Individual and multi-volume manuals. - Individual copies and multi-volume manuals shall be packed to preclude damage to material. Multi-volume manuals shall be furnished as complete sets.

5.1.2 Manuals shipped with equipment. - When two copies of the manual are packed with the equipment they shall be packed within the shipping container holding the main unit of equipment. The manual(s) shall be so placed that they are readily accessible prior to removing the equipment and shall not be placed within the vaporproof barrier material used to enclose the equipment. Manuals accompanying equipment shall be packaged in a waterproof container. The invoice packing list or bill of lading shall include the NAVSHIPS number of the manual, the quantity and shall indicate which container includes the manuals.

5.1.3 Bulk shipment. - Manuals shipped in bulk shall not be individually wrapped. Containers shall comply with the Uniform Freight Classification Rules or other carrier regulations as applicable to the mode of transportation.

5.2 Marking. - On bulk shipments, interior packages and exterior shipping containers shall be marked with the following information for each item enclosed, except for shipment of an individual copy or an individual set of manuals:

Box (number).of (number)	(to be listed on multiple container shipments)
NAVSIPS number	(manual number)
Quantity	(in package)

The words "FOR STOCK" shall be endorsed on the package or packages destined for stock, unless otherwise specified. NAVSHIPS numbers shall be indicated on the shipping documents. When a contract or order requires packages having different NAVSHIPS manual numbers, the stock copies of each manual number shall be shipped separately.

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6. NOTES

6.1 Ordering data. - Equipment specifications and procurement documents shall specify the following:

- (1) Title, number and date of this specification.
- (2) Quantity of manuals or APM pages required, delivery date and delivery destinations (see 3.7 through 3.11 inclusive).

6.2 Classes of manuals. - The class of manual need not be specified in equipment specifications or procurement documents. The intent is that the manufacturer shall supply class A manuals for any equipment for which he has received class A manual approval. He shall supply class B manuals wherever he has not been granted class A approval.

6.3 Use of term "Service Manual". - Manuals to this issue of the specification are identified as "Service Manuals", instead of "Technical Manuals" since past use of the word "Technical" tended to denote a comprehensive, expensive, theoretical and engineering document whereas all that is necessary is a document that provides for satisfactory operation, maintenance and repair.

6.4 Elimination of types. - Previous issues of this specification have established different types for manuals. Types have been eliminated from this issue. The content and make-up of each manual should be tailor-made to delineate the particular operation and maintenance procedures required.

6.5 Rights in data. - Wherever unlimited rights in data are not obtained, the manual should eliminate all proprietary information if operation and maintenance suitability is not thereby reduced. If proprietary information is required to be included and only limited rights in data are obtained, a restrictive clause per ASPR Section 9 should be included on the cover of each manual for ready identification.

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Notice. - When Government drawings, specifications or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Preparing activity:  
Navy - Ships  
(Project 7610-N014Sh)

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## APPENDIX

## 10. SCOPE

10.1 This appendix covers the requirements for the production of service manuals.

## 20. REQUIREMENTS

20.1 Quality. - All manuals furnished will be subject to 35-mm micro-filming. Letters, lines and symbols shall be of a uniform contrast throughout the documents. Blurred or smudged printing or drop out of characters or lines shall be cause for rejection of the publication. Characters shall be no smaller than 8 point type.

20.2 Typography. - Preferred typography is set forth in table I. When revisions are made to the basic manual, the typography shall conform as nearly as possible to the original manual.

Table I - Typography for 8-1/2 by 11 inch manual

Use	Type style and size	Capitalization	Leading	Spacing between units
Security classification A	Gothic 14 pt. <sup>1</sup>	Capitals	6 pt.	
condensed Chapter or section titles	Same type as text	Capitals	6 pt.	48 pt. Following marginal copy, text of illustration
Dictionary side heads	Same type as text	Capitals	8 pt.	18 pt. Preceding text or illustration
Subordinate side heads	Same type as text	Capitals	1 pt.	6 pt. Preceding or following text
Figure and table titles	Same type as text	Capitals and lower case	2 pt.	6 pt. Following illustration

<sup>1</sup>If 14 pt. is not available, next smaller size shall be permitted.

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Table I - Typography for 8-1/2 by 11 inch material (cont'd)

Use	Type, style and size	Capitalization	Leading	Spacing between units
Notes and citations	Same type as text	Capitals centered	-----	4 pt. Preceding and following text
Warnings	Same type as text	Capitals centered	-----	4 pt. Preceding and following text
Text, table of contents, list of illustrations etc.	Book face (roman) bold 10 pt.	Capitals and lower case	1 pt.	12 pt. Preceding illustration or following figure title 6 pt Preceding or following notes, citations, warnings
Keys or legends	Book face (roman) Italics 8 pt.	Capitals and lower case	1 pt.	6 pt. Preceding figure title or following illustration
Parts breakdown listings	Book face (roman) 8 pt.	Capitals and lower case	1 pt.	12 pt. Preceding text 8 pt. Preceding bottom rule or following headings
Footnotes	Book face (roman) bold 8 pt.	Capitals and lower case	1 pt.	-----

## NOTES

1. It is not the intent of this appendix to qualify the methods or composing equipment to be used, but to specify results required.
2. Leading and spacing may be relaxed where circumstances require such alterations.
3. The above requirements are for type that will reproduce same size. When oversize pages are used, type shall reduce to approximately these sizes.
4. All type specified may be plus or minus 1 point, except that 8 point type shall be the minimum allowable size.

94.

10:

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1a

NOTES TO TABLE I (cont'd)

5. The type faces listed below are the most preferred. They are available in linotype or can be closely matched on office composing machines.

Book face (Roman)  
Garamond  
Modern  
Bookman  
Tribune News  
Times Roman  
Antique  
Baskerville  
Century

6. Type sizes as indicated in the requirements were selected for conservation of space and legibility and should not be changed except:

- (a) When oversize pages are prepared.
- (b) When unusual copy fitting problems arise.

20.3 Layout:

20.3.1. Text pages. - The preferred layout of 8-1/2 inches by 11 inches text pages is two columns 20 picas wide and 54 picas deep, making an overall page image size of 42 by 50 picas. The text and illustration areas shall conserve space without lessening clarity or legibility. Blanks and spaces shall be avoided, except on fold-ins, and the first major division of the manual (chapter or section) shall be a new odd page.

20.3.2. Fold-ins. - Fold-in pages shall be used only for diagrams, drawings or charts which cannot be reduced for satisfactory presentation on a single page, or when frequent reference is required from other pages of the book. Aprons are required. When fold-in pages are used, they should be held to a two-page fold-in whenever practicable and shall not exceed an overall length of 34 inches from the binding edge including the apron. The apron may contain information pertaining to the diagram, drawing or chart.

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20.4 Form-punching and drilling. - Service manuals shall be prepared in looseleaf form unless otherwise specified or approved. Looseleaf publications and revisions shall be punched for looseleaf binding with three holes one-fourth inch in diameter and four and one-fourth inches center to center (for 8-1/2 by 11 inch pages) or, with such other drilling or punching as specified. Punching of revision pages shall be the same as punching of the original manuals.

20.5 Size. - Suggested sizes for final trim of service manuals follow:

4-3/8 by 6-3/4  
8-1/2 by 11

All dimensions are in inches.

20.6 Paper stock. -

20.6.1 Text pages. - Paper stock for text pages shall be as specified in 20.6.1.1 or 20.6.1.2.

20.6.1.1 Lithography. - Paper stock shall be white offset book free from unbleached or ground woodpulp and shall have a substance weight of not less than 100 pounds per 1,000 sheets; basis 17 by 22 inches.

20.6.1.2 Letterpress. - Paper stock shall be equivalent to white super-calendered book containing not to exceed 5 percent unbleached chemical wood or ground woodpulp, the remainder to be bleached chemical woodpulp, and shall have a substance weight of not less than 90 pounds per 1,000 sheets, basis 25 by 38 inches.

20.6.2 Fold-ins. - Paper stock for fold-in pages shall be equivalent to high wet strength lithographic map, free from unbleached or ground woodpulp, and shall have a substance weight of not less than 48 pounds per 1,000 sheets, basis 17 by 22 inches.

20.6.3 Binders. - Binders shall be of plastic or pressboard and shall accommodate looseleaf manuals punched or drilled as specified in 20.4 and shall facilitate insertion or replacement pages. Commercial type fasteners are to be used. Information to be included on the binders shall not be stamped with gold or any other metal foil. Binder colors for unclassified manuals shall be any color except yellow or red. Binders for confidential manuals shall be red. Binders for secret and top secret manuals shall be yellow.

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MANUFACTURE 000-00  
SECURITY CLASSIFICATION

VOLUME I OF III

NAV  
SER

NAV  
SER

NAV

# TITLE OF MANUAL

(U)

GROUP CLASSIFICATION MARKING (for classified manuals, see DD254)

SECURITY CLASSIFICATION

Figure 1 - Cover.

NAVSHIPS 000-000  
SECURITY CLASSIFICATION

MIL-M-16071D(SHIPS)  
VOLUME I OF III

**TITLE OF  
MANUAL  
(U)**

*WARNING: This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C., Sections 773 and 774. The transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.*

**SECURITY CLASSIFICATION:**

Figure 2 - Title page.

#### **FORCING OUT THE TRADITIONAL AREAS**

~~PRODUCTION INFORMATION~~

~~STANDARD SPECIFICATION SHEET~~

This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Bureau of Ships.

This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be

Instructions

procured with a minimum amount of delay and at the least cost.

Comments and the return of this form will be appreciated.

Fold on dotted lines on reverse side, staple in corner, and send to Bureau of Ships, Specifications and Standardization Branch, Washington 25, D.C.

Specification

Organization	City	State
--------------	------	-------

Contract No.	Delivery Address
--------------	------------------

Quantity of items procured	Date of Procurement
----------------------------	---------------------

Material procured under a direct Government contract  or a subcontract

I. Has any part of the specification created problems or required interpretation in procurement?

a. Give paragraph number and wording

b. Recommendations for correcting the deficiencies

c. Comment on any specification requirement considered too rigid

d. Is this specification redundant? If the answer is "Yes", in what way?

Yes  No

e. Remarks (Attach any pertinent data which may be of use in improving this specification. Place this form and papers in an envelope and send to the Bureau)

Submitted by (Print name and activity) \_\_\_\_\_ Date \_\_\_\_\_

Fold

DEPARTMENT OF THE NAVY  
BUREAU OF LOGISTICS  
WASHINGTON 25, D.C.

POSITION AND FEES PAID  
DATE DISBURSED

CIVIL, MILITARY AND AIR  
STRUCTURE, EQUIPMENT AND MAINTENANCE BRANCH  
DEPARTMENT OF THE NAVY  
WASHINGTON 25, D.C.

Fold